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10/533,074	04/28/2005	Benyou Jin	42772-217426	6934

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EXAMINER
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LEGESSE, HENOK D

ART UNIT	PAPER NUMBER
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2809

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/533,074	Applicant(s) JIN, BENYOU	
	Examiner Henok Legesse	Art Unit 2809	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: In figure 1 and 3, character 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fullemann (US 4,954,149).

5. As to claim 1, Fullemann teaches a seal ring [100] (fig.1A, 1B, 5; col.4, lines 26-28) comprising a tube-shaped, elastic part (see fig. 1A, 1B, 5; col.6, lines 56-61) having an insertion opening [115] (fig.1A; col.4, lines 32-34) at a lower end for receiving an ink (fluid) supply needle [101] (fig.1B; col.4, line 55), wherein the top of the insertion opening [115] includes a top sealing film [111] (fig.1A; col.4, line 31) having a crack [117] (fig.1A; col.4, line 34) connecting the insertion opening [115] and a space above the top sealing film [111].

6. As to claim 2, Fullemann teaches all the claimed limitations in claim 1 (see claim 1 rejection above). Fullemann further teaches the insertion opening [115] has a narrower portion (see fig.1A) having a diameter smaller than that of the ink supply needle [101]. (col.5, lines 35-44)

7. As to claim 3, Fullemann teaches all the claimed limitations in claim 2 (see claim 2 rejection above). Fullemann further teaches the narrower portion (the narrower portion of 115, fig. 1A) is formed by rings (see fig. 1A, 115 is formed with layers of concentric rings whose diameter decreases going towards 117) which are axially raised (in a vertical direction) from the lower end of the tube-shaped elastic part [100].

8. As to claim 4, Fullemann teaches all the claimed limitations in claim 1 (see claim 1 rejection above). Fullemann further teaches the top of the tube-shaped, elastic part [100] is provided with a symmetric support [107] (fig. 1A, 1B; col. 4, lines 37-43), one end of the support being located on an internal wall of the tube-shaped, elastic part, [100] and another end of the support being located around the top sealing film [111] (see. fig. 1A and 1B).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fullemann (US 4,954,149) embodiment fig. 1A, 1B in view of embodiment fig. 7.

11. As to claim 5, Fullemann embodiment fig. 1A, 1B teaches all the claimed limitations in claim 4 (see claim 4 rejection under 102(b) above).

Fullemann embodiment fig. 1A, 1B fails to teach a sealing wherein a surface on which the crack is located overlaps with a surface of the symmetric support.

Fullemann embodiment fig. 7 teaches a sealing [700] (fig. 7; col. 7, lines 45-46),

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wherein a surface on which the crack [709] (fig.7; col.7, line 50) is located overlaps with a surface of the symmetric support [703] (fig.7; col.7, lines 47-49).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have used the symmetric support [703] with the crack [709] of embodiment fig.7 in the embodiment fig.1A, 1B with the motivation that the symmetric support of fig.7 is made as a unitary body (see fig.7) which makes it easier to produce and assemble. (col.3, lines 28-34)

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fullemann (US 4,954,149) in view of Mochizuki et al.(US 6,045,207)

13. As to claim 6, Fullemann teaches, a seal ring [100] (fig.1A, 1B, 5; col.4, lines 26-28) comprises a tube-shaped, elastic part, (see fig. 1A, 1B, 5; col.6, lines 56-61) an external wall of the elastic part tightly connecting with an internal wall of the an outlet (col.6, lines 4-23), and a lower end of the elastic part [100] including an insertion opening [115] (fig.1A; col.4, lines 32-34) for receiving an fluid supply needle [101] (fig.1B; col.4, line 55); wherein the top of the insertion opening [115] includes a top sealing film [111] (fig.1A; col.4, line 31), having a crack [117] (fig.1A; col.4, line 34) connecting the insertion opening [115] and a space above the top sealing film [111].

Fullemann fails to teach ink cartridge comprising an ink outlet, which supplies ink from an internal ink chamber.

Mochizuki et al teaches ink cartridge [200] (fig.2; col.5, line 10) comprising an ink outlet [15] (fig.2; col.5, lines 15-17), which supplies ink from an internal ink chamber to the recording head [4].

Since both Fullemann and Mochizuki et al teach seal-ring / septum / packing member for resiliently sealing fluid supply needle, it would have been obvious to one ordinary skill in the art at the time the invention was made to have used the septum of Fullemann in the ink cartridge of Mochizuki et al because the septum of Fullemann has an aperture 117 with a clip 107 designed for reliable sealing to prevent fluid leakage. (col. 4, lines 47-50)

14. As to claim 7, Fullemann and Mochizuki et al teach all limitations claimed in claim 6 (see the 103(a) rejection of claim 6 above).

Fullemann further teaches the insertion opening [115] has a narrower portion (see fig.1A) having a diameter smaller than that of the ink supply needle [101]. (col.5, lines 35-44)

15. As to claim 8, Fullemann and Mochizuki et al teach all limitations claimed in claim 7 (see the 103(a) rejection of claim 7 above).

Fullemann further teaches the narrower portion (the narrower portion of 115, fig. 1A) is formed by rings (see fig. 1A, 115 is formed with layers of concentric rings whose diameter decreases going to wards 117) which are axially raised (in a vertical direction) from the lower end of the tube-shaped elastic part [100].

16. As to claim 9, Fullemann and Mochizuki et al teach all limitations claimed in claim 6 (see the 103(a) rejection of claim 6 above).

Fullemann further teaches the top of the tube-shaped, elastic part [100] includes a symmetric support [107] (fig.1A, 1B; col.4, lines 37-43), one end of the support being located on an internal wall of the tube-shaped, elastic part, [100] and another end of the support being located around the top sealing film [111] (see. fig. 1A and 1B).

17. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fullemann (US 4,954,149) embodiment fig.1A, 1B, 5 and Mochizuki et al.(US 6,045,207) in view of Fullemann embodiment fig. 7.

Fullemann fig.1A, 1B, 5 and Mochizuki et al teach all limitations claimed in claim 9 (see the 103(a) rejection of claim 9 above).

Fullemann fig.1A, 1B, 5 and Mochizuki et al fail to teach a sealing wherein a surface on which the crack is located overlaps with a surface of the symmetric support.

Fullemann embodiment fig.7 teaches a sealing [700] (fig. 7; col.7, lines 45-46), wherein a surface on which the crack [709] (fig.7; col.7, line 50) is located overlaps with a surface of the symmetric support [703] (fig.7; col.7, lines 47-49).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have used the symmetric support [703] with the crack [709] of embodiment fig.7 in the embodiment fig.1A, 1B with the motivation that the symmetric



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support of fig.7 is made as a unitary body (see fig.7) which makes it easier to produce and assemble. (col.3, lines 28-34)

***Claim Rejections - 35 USC § 102***

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

19. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Barinaga et al. (US 6,702,434 B2).

20. As to claim 1, Barinaga et al teaches a seal ring [septum structure, 100] (fig.6, 7,8; col.3, lines 12-14) comprising a tube-shaped (see fig.6-7), elastic part (col.1, line 7) having an insertion opening [gland seal, 110] (fig.6-8; col.3, lines 18-25) at a lower end for receiving an ink supply needle [needle, 40] (fig.7; col.3, line 21), wherein the top of the insertion opening [110] includes a top sealing film [slit membrane, 102] (fig.6-8; col.3, lines 16-18) having a crack [slit or opening, 104] (fig.6-8; col.3, lines 16-18) connecting the insertion opening [110] and a space above the top sealing film [102].

21. As to claim 2, Barinaga et al teaches all the claimed limitations in claim 1.

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Barinaga et al further teaches the insertion opening [110] has a narrower portion (see fig.8) having a diameter smaller than that of the ink supply needle [40]. (See fig.6, 7; col.3, lines 18-25; the gland seal acts as a redundant seal when the needle is engaged, fig.7, i.e. when the needle is not in engaged position, fig.6, the diameter of the narrower portion of the gland seal 110 is smaller than that of the needle 40, and when the needle is in engaged position, fig.7, the narrower portion of the gland seal 110 stretches to accommodate the needle as the needle advances through it sealing the needle).

22. As to claim 3, Barinaga et al teaches all the claimed limitations in claim 2.

Barinaga et al further teaches the narrower portion (the narrower portion of gland seal 110, fig. 6,8) is formed by a ring (is in the shape of cylindrical ring, see fig. 8) which is axially raised (in a vertical direction as is shown in fig.8) from the lower end of the tube-shaped elastic part [110].

### ***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barinaga et al. embodiment fig.1- 4 in view of embodiment fig. 6-8.

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25. As to claim 6, Barinaga et al embodiment fig.1- 4 teaches an ink cartridge [fluid supply, host part, 10] (fig.4; col.2, lines 65-67) comprising an ink outlet (col.3, lines 1-5) which supplies ink from an internal ink chamber [reservoir, 11] (fig.4; col.3, line 3), wherein the ink outlet is provided with a seal ring [septum structure, 20] (fig.1-4; col.2, lines 65-66), the seal ring [20] comprises a tube-shaped, elastic part, (fig.1-4; col.2, lines 30-48) an external wall of the elastic part tightly connecting with an internal wall of the ink outlet (col.2, lines 9-11), and a lower end of the elastic part including an insertion opening [24] (fig. 3; col.2, lines 39-41) for receiving an ink supply needle [40](fig.1; col. 2, line 16);

Barinaga et al embodiment fig.1- 4 fails to teach the top of the insertion opening includes a top sealing film, having a crack connecting the insertion opening and a space above the top sealing film.

Barinaga et al embodiment fig. 6-8 teaches the top of the insertion opening [gland seal, 110] (fig.6-8; col.3, lines 18-25) includes a top sealing film [slit membrane, 102] (fig.6-8; col.3, lines 16-18), having a crack [slit or opening, 104] (fig.6-8; col.3, lines 16-18) connecting the insertion opening [110] and a space above the top sealing film [102].

It would have been obvious to one ordinary skill in the art at the time the invention was made to have used the insertion opening [110], which has a top sealing film [102] with a crack [104] of septum structure 100 of embodiment fig.6-8 in the septum structure 20 of embodiment fig.1-4 since the slit 104 on the slit membrane 102 creates a needle path for the needle through the septum structure. (col.3, lines 12-16)

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26. As to claim 7, Barinaga et al teaches all claimed limitations in claim 6 (see claim 6 rejection above).

Barinaga et al embodiment fig.1- 4 further teaches the insertion opening [24] (fig. 3; col.2, lines 39-41) has a narrower portion (the narrower portion of 24 in fig.3 which is defined by the seal surface 26) having a diameter smaller than (col. 2, lines 40-48) that of the ink supply needle [40](fig.1; col. 2, line 16).

27. As to claim 8, Barinaga et al teaches all claimed limitations in claim 7 (see claim 7 rejection above).

Barinaga et al embodiment fig.1- 4 further teaches the narrower portion (the narrower portion of 24 in fig.3 which is defined by the seal surface 26) is formed by a ring ("the inner diameter of the gland seal surface 26 is analogous to the minor diameter of an o-ring"; col. 2, lines 40-48) which is axially raised from the lower end of the tube-shaped, elastic part [20] (see fig. 1-3).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henok Legesse whose telephone number is (571) 270-1615. The examiner can normally be reached on Mon - FRI, 7:30-5:00, ALT.FRI EST.TIME.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571) 272-1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

\*\*\*H.L.  
04/04/07

  
LISA CAPUTO  
PRIMARY PATENT EXAMINER